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(54) PARALLEL CONNECTION POWER STABILIZER

(57)Abstract:

**PURPOSE:** To prevent instantaneous power interruption by connecting a superconducting power stabilizer in parallel with a circuit breaker and a disconnector interposed between a power system and a load and supplying power stored in a superconducting induction energy storage unit to the load in case of voltage drop or power interruption.

**CONSTITUTION:** Power is fed from a power supply 24 through a switch 54, disconnectors 70, 72 and a circuit breaker 60 to a load 58. A superconducting power backup/recovery unit 20 is connected in parallel between the power supply 24 and the load 58 through a phase shift transformer and an effective power generator/reactive power compensator 44. The unit 20 converts 22 AC power from the power supply 24 into DC power which is stored in a refrigerated 30 superconducting magnet 28. A voltage regulator 34 controls power storage in the superconducting magnet 28 and power supply to an energy storage cell 36. A controller 38 detects power supply voltage drop or power interruption and opens an interruption switch 60 to supply power from the energy storage cell 36 to the load 58 and/or the

power supply 24 through the effective power generator/reactive power compensator 44 and a phase shift transformer 50 thus preventing instantaneous power interruption.

